

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Osamu KIMOTO

Serial No. 10/694,686

Filed: October 25, 2003

For: Color Image Transmitting Device

Art Unit: 4157

Examiner: Tsang, Elbert

Confirmation No.: 3913

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Enclosed herewith is a copy of the verified English translation of priority document Japanese Patent Application No. 2002-327660, filed November 12, 2002, from which priority is claimed under 35 U.S.C. § 119 and Rule 55.

Acknowledgment of the priority document(s) is respectfully requested to ensure that the subject information appears on the printed patent.

Respectfully submitted,

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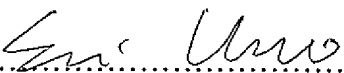
DECLARATION
Japanese Patent Application 2002-327660
Filed on November 12, 2002

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declare that I am the translator of the above-referenced document as attached
and certify that the following is a true translation to the best of my knowledge
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Signed this 21st day of December, 2007

..........

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[Document Name] Application for Patent

[Reference Number] M02140

[Filing Date] Heisei 14, November 12

[Destination] Commissioner of the Patent Office

[International Patent Classification] H04N 1/00

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[Indication of Fee]

[Register Number of Prepayment] 016506

[Amount of Fee] 21,000 yen

[List of Filing Documents]

[Name of Document] Specification 1

[Name of Document] Drawing 1

[Name of Document] Abstract 1

[General Power of Attorney No.] 0005907

[Necessity of Proof] Necessary

[Document Name] Specification

[Title of the Invention] Color image transmitting device

[Scope of Claim for Patent]

[Claim 1]

A color image transmitting device comprising a color image storage unit for storing scanned and input sYCC-JPEG image data, a color image transmitting unit for transmitting color image data via a communication line, and means for extracting various pieces of information other than actual image data included in the stored sYCC-JPEG image data, wherein before the actual image data is transmitted, the extracted various pieces of information are converted into an image so as to be transmitted.

[Claim 2]

The color image transmitting device according to claim 1, wherein when transmitting the actual image data including images of a plurality of pages at one time, the extracted information includes page number data of the plurality of pages.

[Detailed Description of the Invention]

[0001]

[Field of the Invention]

The present invention relates to a color image transmitting device such as a facsimile machine and a multifunction peripheral, including a color image communication function.

[0002]

[Related Art]

In general, some color facsimile machines for transmitting and

receiving a color scanning device can perform facsimile transmission of image data photographed by another device such as a digital camera, via a communication line. Conventionally, in order to perform facsimile transmission of image data of a digital camera or the like, a technique has been proposed (for example, refer to Patent Document 1) in which a facsimile machine is equipped with a storage media slot of the digital camera, YCbCr-JPEG image data photographed by the digital camera or the like is read out once from a storage media into a memory, the data is expanded as RGB image data into the memory of the facsimile machine, white pixels are then added so that a width of the image data includes a prescribed number of pixels, and the data is compressed into Lab-JPEG image data and sequentially transmitted in accordance with T81.

[0003]

Moreover, a technique has also been proposed (for example, refer to Patent Document 2) in which a facsimile machine stores in advance as data, a destination name for a cover page, a section (format) for writing a transmitter name, and fixed phrases such as "Thank you" and "Sincerely", and when transmitting the cover page, a blank section of the data is filled in by input by key-input means to form the cover page.

[0004]

[Patent Document 1]

JP,2001-285647,A

[0005]

[Patent Document 2]

JP,H6-30162,A

[0006]

[Problems to be Solved by the Invention]

In the above-described conventional color facsimile machine, when transmitting the image data photographed by the digital camera, if the image data is transmitted as it is, it may be unclear at a destination as to how the image was photographed and who photographed the image. Therefore, when transmitting the photographed image, a transmitter may form an introductory message as a heading to add to the front of the photographed image, and then transmit. However, a problem is that it is troublesome for the transmitter to form such message. Moreover, as in the technique of Patent Document 2, the format and the fixed phrases of the introductory message may be stored in advance to form the cover page, however, it is still necessary to input each specific data by using keys.

[0007]

The present invention was made in consideration of the above-described problems. It is an object of the present invention to provide a color image transmitting device capable of automatically adding a cover page such as a heading to transmit when performing facsimile transmission of a photographed image such as a digital camera.

[0008]

[Means for Solving the Problems]

The color image transmitting device of the present invention

includes a color image storage unit for storing scanned and input SYCC-JPEG image data, a color image transmitting unit for transmitting color image data via a communication line, and means for extracting various pieces of information other than actual image data included in the stored SYCC-JPEG image data. Moreover, the color image transmitting device of the present invention converts the extracted various pieces of information into an image to transmit before transmitting the actual image data.

[0009]

In the color image transmitting device of the present invention, the various pieces of information other than the image data included in the SYCC-JPEG image data, such as a photographer, a photographed time, and a photographing device, are extracted and converted into the image to be transmitted as the cover page. Therefore, an operator can save the trouble of inputting for the cover page at the time of transmission.

[0010]

In the color image transmitting device of the present invention, when transmitting images of a plurality of pages at one time, the actual image data can be transmitted by adding page number data of the plurality of pages to the extracted information.

[0011]

[Embodiment of the Invention]

A description will be made of the present invention in greater detail according to an embodiment. Fig. 1 is a block diagram illustrating a schematic configuration of an entire color image

transmitting device according to the embodiment of the present invention.

[0012]

The color image transmitting device according to the embodiment is formed as a so-called color multifunction peripheral including a facsimile function and a copy function, and has a main control unit 1, an NCU (Network Control Unit) 2, a MODEM 3, an ROM 4, an RAM 5, an image memory 6, a display unit 7, an operation unit 8, an image scanning unit 9, an image printing unit 10, a CODEC (Coder and Decoder) 11, a LAN I/F 12, and a bus 13.

[0013]

The main control unit (CPU) 1 includes a function of controlling each portion that forms the device. The NCU 2 controls a connection with a Public Switched Telephone Network (PSTN) 14, which is a communication line, while including a function of transmitting a dial signal corresponding to a telephone number (including a facsimile number) of a destination and a function of detecting an incoming call. The MODEM 3 modulates transmission data and demodulates received data in accordance with V.17, V.27ter, V.29 or the like based on a facsimile transmission control protocol in accordance with the International Telecommunication Union-Telecommunications (ITU-T) Recommendation T.30, T.4 or the like. Alternatively, the MODEM 3 further modulates transmission data and demodulates received data in accordance with V.34.

[0014]

The ROM 4 stores programs for controlling the device. The RAM

5 temporarily stores data or the like. The RAM 5 includes a storage unit 5a assigned to store a SYCC-JPEG file.

[0015]

The image memory 6 temporarily stores received image data and image data scanned by the image scanning unit 9. The display unit (LCD) 7 displays icons, key buttons, and message content or the like necessary for the transmission and the reception of the data. The operation unit 8 includes a one-touch key, a registration key, an operation mode switching key for switching a plurality of operation modes such as a FAX mode, a copy mode, and a scanner mode, a numeric keypad, a start key, and other keys. The image scanning unit 9 scans optically and reads image data of an original document when performing FAX transmission or copying. The image scanning unit 9 can also scan a color image. The image printing unit 10 is formed with an electro photographic printer, and prints out on a recording paper, received image data or the image data of the original document scanned by the image scanning unit 9 in a copy operation. The image printing unit 10 can also perform color printing.

[0016]

The CODEC 11 encodes the scanned image data to transmit or store in accordance with MH, MR, MMR methods or the like, and decodes the received image data to print out. The LAN I/F 12 is connected to an external device that forms a PC (Personal Computer) and a LAN (Local Area Network) 15, and data can be transmitted to and received from the external device through the LAN I/F 12. When a

request for transfer of data such as a JPEG file is received from an external PC, the JPEG image data in the storage unit 5a is transferred to the external PC via the LAN I/F 12 and the LAN 15.

[0017]

The color image photographed by the digital camera or the like is stored as the sYCC-JPGE file in the storage unit 5a. In place of the storage unit 5a of the RAM 5, the sYCC-JPEG file may be stored in another storage means that can be accessed under the control of the main control unit 1.

[0018]

As illustrated in Fig. 4, an sYCC-JPEG file FJ includes a photographed image (actual image) FJ1 photographed by the digital camera, a thumbnail of the photographed image FJ2, and additional information FJ3, which are together referred to as the sYCC-JPEG file. The additional information FJ3 includes information on the photographer, a photographed time, and related data of the photographing device or the like.

[0019]

Next, a description will be made of a transmission process of the multifunction peripheral of the present invention with reference to flow diagrams of Figs. 2 and 3. In this transmission process routine, first, in step ST1, it is determined whether or not the data to be transmitted is color data. When the data is color data, the process proceeds to step ST2. When the data is not color data, the process proceeds to step ST5. In step ST2, it is determined whether or not color space is sYCC color space. When

the color space is the sYCC color space, the process proceeds to step ST3. When the color space is another color space, the process proceeds to step ST5.

[0020]

In step ST3, it is determined whether or not to form a cover page from the additional information FJ3 of the sYCC-JPEG file FJ, which is the information in the image file. The determination of the necessity of the cover page is performed in accordance with an input operation by an operator. When the cover page is to be formed, the process proceeds to step ST4. When the cover page is not to be formed, the process proceeds to step ST5. In step ST5, dial-in is performed. Then, the process proceeds to step ST6. In step ST6, a CNG (calling tone) signal is transmitted. Next, the process proceeds to step ST7.

[0021]

In step ST7, it is determined whether or not a signal has been received. When the signal is received, the process proceeds to step ST8. When no signal is received, the process proceeds to step ST12. In step ST12, it is determined whether or not a time T1 (a timer T1 is started at the time of CNG transmission) has elapsed. Until the time T1 elapses, the process returns to step ST6, where the CNG signal is transmitted. When the time T1 elapses, dialing is performed again.

[0022]

In step ST8, it is determined whether or not a DIS (Digital Identification Signal) signal has been received from a terminal

which received the CNG signal. When the DIS signal is received, the process proceeds to step ST9. When the DIS signal is not received, the process returns to step ST12, and until the time T1 elapses, the process proceeds to step ST6, where the CNG signal is transmitted. In step ST9, it is determined in accordance with the DIS signal whether or not a destination has a color receiving ability. When the destination has the color receiving ability, the process proceeds to step ST10. When the destination does not have the color receiving ability, the process proceeds to a conventional FAX protocol process.

[0023]

In step ST10, a DCS signal (Digital Command Signal) is transmitted. Next, the process proceeds to ST11. In step ST11, training transmission is started. Then, the process proceeds to step ST13. In step ST13, it is determined whether or not a signal has been received. When it is determined that the signal has been received, the process proceeds to step ST14. When the signal is not received, the process proceeds to ST21. In step ST21, it is determined whether or not to attempt the training transmission for three times. When it is determined not to attempt for three times, the process proceeds to step ST10. When the training transmission is attempted for three times, the process proceeds to ST22, where a line is disconnected.

[0024]

In step ST14, the cover page is transmitted. In this case, monochrome image transmission is performed. Fig. 5 illustrates an example of a formed and transmitted cover page. Next, the process

proceeds to step ST15. In step ST15, an EOM signal (post message) is transmitted. Then, the process proceeds to step ST16. In step ST16, it is determined whether or not the DIS signal has been received. When the DIS signal is received, the process proceeds to step ST17. When the DIS signal is not received, the process proceeds to step ST23. In step ST23, it is determined whether or not the time T1 has elapsed. Until the time T1 elapses, the process returns to step ST16, where reception of the DIS signal is waited. When the time T1 elapses, the process proceeds to step ST24, where the line is disconnected. In step ST17, the DCS signal is transmitted. Then, the process proceeds to step ST18. In step ST18, the training transmission is performed. The processes in step ST16 through ST18 similar to the processes in step ST8 through ST11 are performed so as to carry out the reception of the DIS signal again in order to transmit a color image. Then, the process proceeds to step ST19.

[0025]

In step ST19, it is determined whether or not a CFR signal (Confirmation to Receive) from the destination has been received. When the CFR signal is received, the process proceeds to step ST20. When the CFR signal is not received, the process proceeds to step ST25. In step ST25, without receiving the CFR signal, it is determined whether or not the DCS transmission in step ST17 and the training transmission in step ST18 have been attempted for three times. When they have not been attempted for three times, the process returns to step ST17. Then again, the DCS transmission and

the training transmission are performed. When the training transmission is attempted for three times without receiving the CFR signal, the process moves to step ST2, where the line is disconnected to terminate the process. In step ST20, color data (sYCC-JPEG) is transmitted.

[0026]

[Advantageous Effect of the Invention]

According to the present invention, the color image storage unit for storing the scanned and input sYCC-JPEG image data, the color image transmitting unit for transmitting the color image data via the communication line, and the means for extracting the various pieces of information other than the actual image data included in the stored sYCC-JPEG image data, are provided, and before the actual image data is transmitted, the extracted various pieces of information are converted into the image to be transmitted. Therefore, without inputting manually, the operator can easily attach and transmit the cover page.

[Brief Description of the Drawings]

[Fig. 1]

Fig. 1 is a block diagram illustrating a configuration of a multifunction peripheral, which is an embodiment of a color image transmitting device of the present invention.

[Fig. 2]

Fig. 2 is a flow diagram for explaining transmission processes of the multifunction peripheral according to the embodiment.

[Fig. 3]

Similar to Fig. 2, Fig. 3 is a flow diagram for explaining transmission processes of the multifunction peripheral according to the embodiment.

[Fig. 4]

Fig. 4 illustrates a schematic configuration of an SYCC-JPEG file in the multifunction peripheral according to the embodiment.

[Fig. 5]

Fig. 5 illustrates an example of a cover page transmitted by the multifunction peripheral according to the embodiment.

[Description of the Reference Numerals]

- 1 Main control unit
- 2 NCU
- 3 MODEM
- 4 ROM
- 5 RAM
- 6 Image memory
- 7 Display unit
- 8 Operation unit
- 9 Image scanning unit
- 10 Image printing unit
- 11 CODEC
- 12 LAN I/F
- 13 Bus
- 14 Telephone line
- 15 LAN

FIG. 1

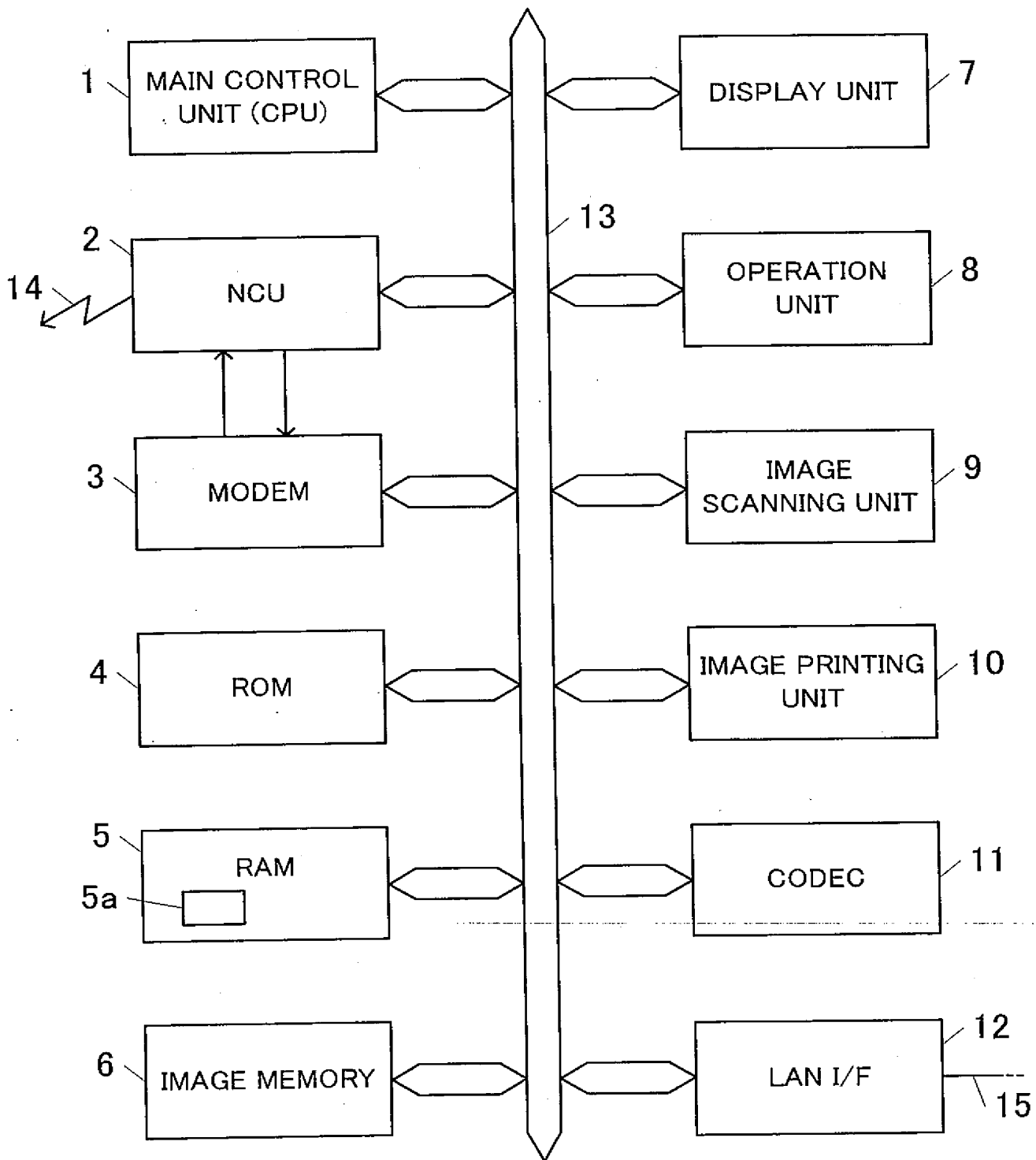


FIG. 2

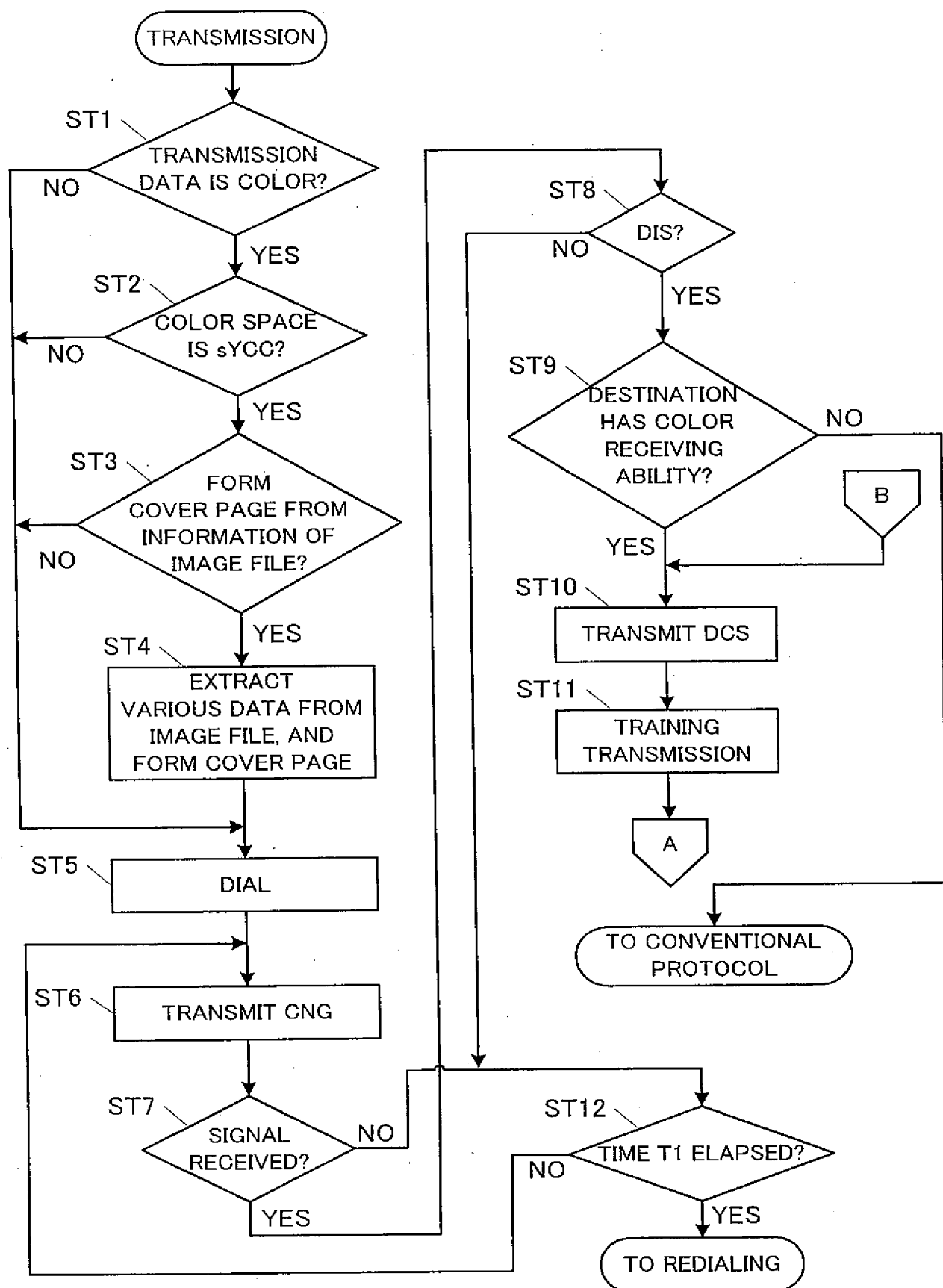


FIG. 3

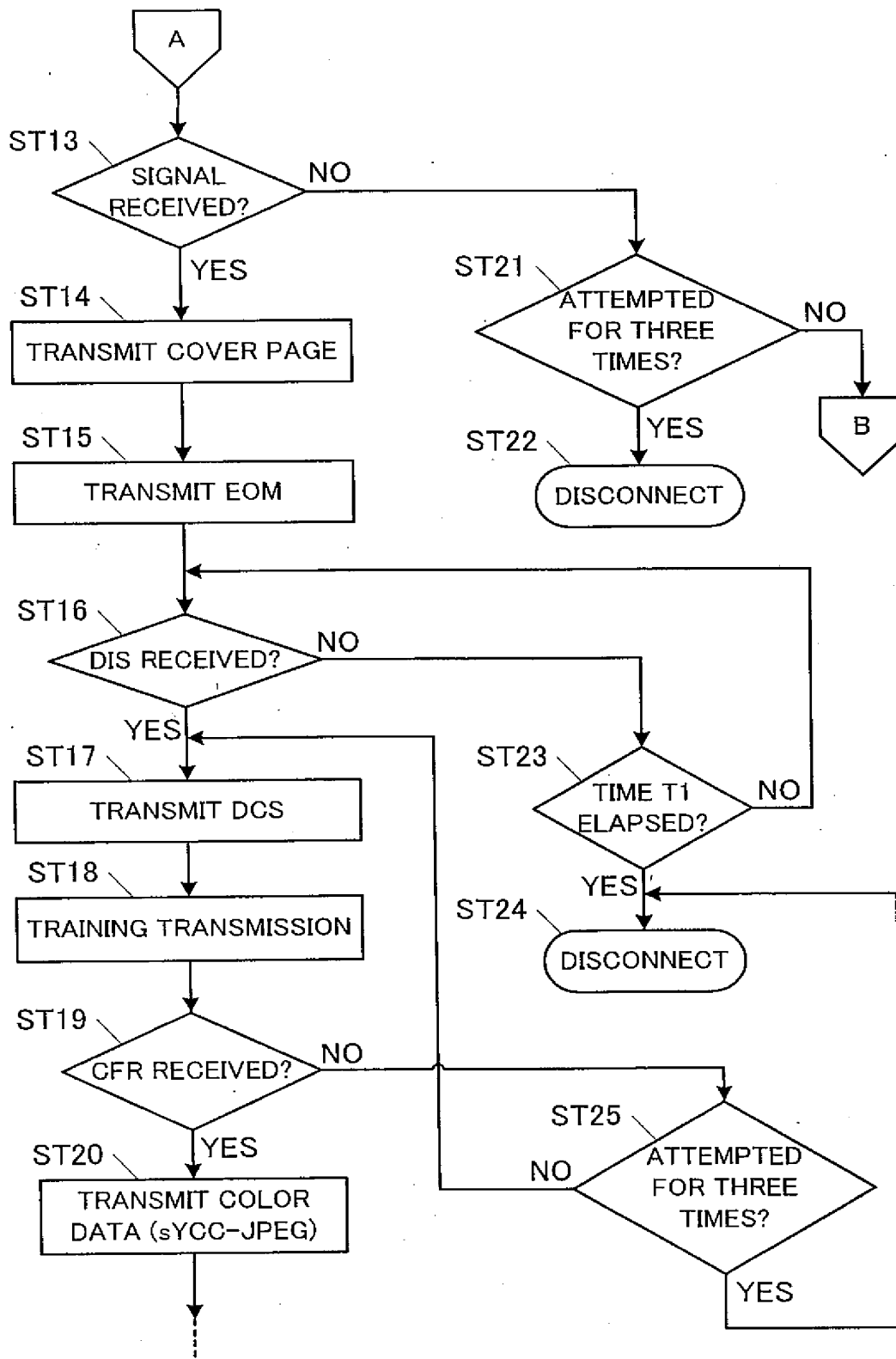


FIG. 4

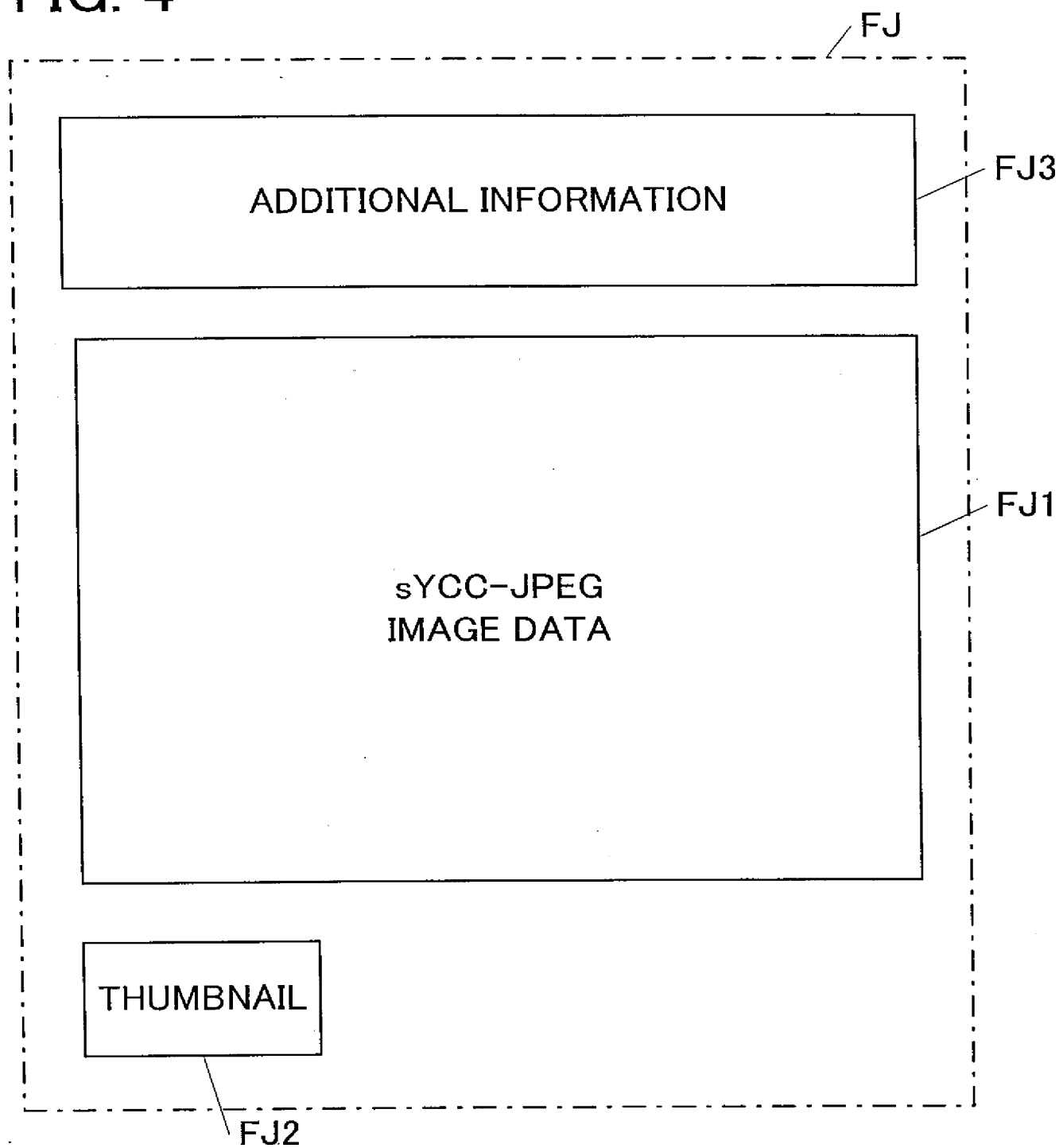


FIG. 5

* * COVER PAGE * *

NOV. 7, 2002 (THU) 17:40

NAME OF TRANSMITTER: TARO MURATA
FAX NO.: +81-75-123-4567

FOLLOWING COLOR IMAGE FILE WILL BE TRANSMITTED.
NUMBER OF FILES TO BE TRANSMITTED: 2

PAGE NO. 1

TITLE OF IMAGE: AUTUMN PICNIC
PHOTOGRAPHER: TARO MURATA
PHOTOGRAPHED DATE AND TIME: OCT. 7, 2002
FORMED DATE AND TIME: OCT. 7, 2002
CHANGED DATE AND TIME: OCT. 7, 2002
PHOTOGRAPHER'S COMMENTS: IT WAS A FUN TIME.

PAGE NO. 2

TITLE OF IMAGE: SPORTS FESTIVAL
PHOTOGRAPHER: TARO MURATA
PHOTOGRAPHED DATE AND TIME: OCT. 10, 2002
FORMED DATE AND TIME: OCT. 10, 2002
CHANGED DATE AND TIME: OCT. 10, 2002
PHOTOGRAPHER'S COMMENTS: FIRST PRIZE!

[Document Name] Abstract

[Abstract]

[Problem] To automatically add a cover page such as a heading to transmit when transmitting a photographed image such as a digital camera via facsimile.

[Means for Solving the Problem] When a color image being color data with sYCC color space is to be transmitted (steps ST1 and ST2), a cover page is formed (step ST4) by extracting various data other than an actual color image from an image file. Then, when dial-in is performed to a destination (step ST5), a CNG signal is transmitted, a DIS signal is received (steps ST6 and ST8), and if the destination has a color receiving ability (step ST9), the formed cover page is transmitted (step ST14).

[Selected Drawing] Fig. 2